

20990PCT GPR54.ST25  
SEQUENCE LISTING

<110> INSERM

<120> RECEPTOR AGONIST AND ANTAGONIST USEFUL FOR THE TREATMENT OF GONADOTROPIN RELATED DISEASES

<130> 20990EP

<160> 3

<170> PatentIn version 3.1

<210> 1

<211> 1197

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)..(1197)

<223>

<220>

<221> gene

<222> (1)..(1197)

<223> GPR54 gene

<400> 1

atg cac acc gtg gct acg tcc gga ccc aac gcg tcc tgg ggg gca ccg  
Met His Thr Val Ala Thr Ser Gly Pro Asn Ala Ser Trp Gly Ala Pro  
1 5 10 15

48

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gcc aac gcc tcc ggc tgc ccg ggc tgt ggc gcc aac gcc tcg gac ggc Ala Asn Ala Ser Gly Cys Pro Gly Cys Gly Ala Asn Ala Ser Asp Gly 20 25 30	96
cca gtc cct tcg ccg cgg gcc gtg gac gcc tgg ctc gtg ccg ctc ttc Pro Val Pro Ser Pro Arg Ala Val Asp Ala Trp Leu Val Pro Leu Phe 35 40 45	144
ttc gcg gcg ctg atg ctg ctg ggc ctg gtg ggg aac tcg ctg gtc atc Phe Ala Ala Leu Met Leu Leu Gly Leu Val Gly Asn Ser Leu Val Ile 50 55 60	192
tac gtc atc tgc cgc cac aag ccg atg cgg acc gtg acc aac ttc tac Tyr Val Ile Cys Arg His Lys Pro Met Arg Thr Val Thr Asn Phe Tyr 65 70 75 80	240
atc gcc aac ctg gcg gcc acg gac gtg acc ttc ctc ctg tgc tgc gtc Ile Ala Asn Leu Ala Ala Thr Asp Val Thr Phe Leu Leu Cys Cys Val 85 90 95	288
ccc ttc acg gcc ctg ctg tac ccg ctg ccc ggc tgg gtg ctg ggc gac Pro Phe Thr Ala Leu Leu Tyr Pro Leu Pro Gly Trp Val Leu Gly Asp 100 105 110	336
ttc atg tgc aag ttc gtc aac tac atc cag cag gtc tcg gtg cag gcc Phe Met Cys Lys Phe Val Asn Tyr Ile Gln Gln Val Ser Val Gln Ala 115 120 125	384
acg tgt gcc act ctg acc gcc atg agt gtg gac cgc tgg tac gtg acg Thr Cys Ala Thr Leu Thr Ala Met Ser Val Asp Arg Trp Tyr Val Thr 130 135 140	432
gtg ttc ccg ttg cgc gcc ctg cac cgc cgc acg ccc cgc ctg gcg ctg Val Phe Pro Leu Arg Ala Leu His Arg Arg Thr Pro Arg Leu Ala Leu 145 150 155 160	480
gct gtc agc ctc agc atc tgg gta ggc tct gcg gcg gtg tct gcg ccg Ala Val Ser Leu Ser Ile Trp Val Gly Ser Ala Ala Val Ser Ala Pro 165 170 175	528
gtg ctc gcc ctg cac cgc ctg tca ccc ggg ccg cgc gcc tac tgc agt Val Leu Ala Leu His Arg Leu Ser Pro Gly Pro Arg Ala Tyr Cys Ser 180 185 190	576
gag gcc ttc ccc agc cgc gcc ctg gag cgc gcc ttc gca ctg tac aac Glu Ala Phe Pro Ser Arg Ala Leu Glu Arg Ala Phe Ala Leu Tyr Asn 195 200 205	624
ctg ctg gcg ctg tac ctg ctg ccg ctg ctc gcc acc tgc gcc tgc tat Leu Leu Ala Leu Tyr Leu Leu Pro Leu Leu Ala Thr Cys Ala Cys Tyr 210 215 220	672
gcg gcc atg ctg cgc cac ctg ggc cgg gtc gcc gtg cgc ccc gcg ccc Ala Ala Met Leu Arg His Leu Gly Arg Val Ala Val Arg Pro Ala Pro 225 230 235 240	720
gcc gat agc gcc ctg cag ggg cag gtg ctg gca gag cgc gca ggc gcc Ala Asp Ser Ala Leu Gln Gly Gln Val Leu Ala Glu Arg Ala Gly Ala 245 250 255	768

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gtg	cgg	gcc	aag	gtc	tcg	cgg	ctg	gtg	gcg	gcc	gtg	gtc	ctg	ctc	ttc	816
Val	Arg	Ala	Lys	Val	Ser	Arg	Leu	Val	Ala	Ala	Val	Val	Leu	Leu	Phe	
			260				265						270			
gcc	gcc	tgc	tgg	ggc	ccc	atc	cag	ctg	ttc	ctg	gtg	ctg	cag	gcg	ctg	864
Ala	Ala	Cys	Trp	Gly	Pro	Ile	Gln	Leu	Phe	Leu	Val	Leu	Gln	Ala	Leu	
		275					280					285				
ggc	ccc	gcg	ggc	tcc	tgg	cac	cca	cgc	agc	tac	gcc	gcc	tac	gcg	ctt	912
Gly	Pro	Ala	Gly	Ser	Trp	His	Pro	Arg	Ser	Tyr	Ala	Ala	Tyr	Ala	Leu	
	290					295					300					
aag	acc	tgg	gct	cac	tgc	atg	tcc	tac	agc	aac	tcc	gcg	ctg	aac	ccg	960
Lys	Thr	Trp	Ala	His	Cys	Met	Ser	Tyr	Ser	Asn	Ser	Ala	Leu	Asn	Pro	
305					310					315					320	
ctg	ctc	tac	gcc	ttc	ctg	ggc	tcg	cac	ttc	cga	cag	gcc	ttc	cgc	cgc	1008
Leu	Leu	Tyr	Ala	Phe	Leu	Gly	Ser	His	Phe	Arg	Gln	Ala	Phe	Arg	Arg	
			325						330					335		
gtc	tgc	ccc	tgc	gcg	ccg	cgc	cgc	ccc	cgc	cgc	ccc	cgc	cgg	ccc	gga	1056
Val	Cys	Pro	Cys	Ala	Pro	Arg	Arg	Pro	Arg	Arg	Pro	Arg	Arg	Pro	Gly	
			340					345					350			
ccc	tcg	gac	ccc	gca	gcc	cca	cac	gcg	gag	ctg	ctc	cgc	ctg	ggg	tcc	1104
Pro	Ser	Asp	Pro	Ala	Ala	Pro	His	Ala	Glu	Leu	Leu	Arg	Leu	Gly	Ser	
		355					360					365				
cac	ccg	gcc	ccc	gcc	agg	gcg	cag	aag	cca	ggg	agc	agt	ggg	ctg	gcc	1152
His	Pro	Ala	Pro	Ala	Arg	Ala	Gln	Lys	Pro	Gly	Ser	Ser	Gly	Leu	Ala	
	370					375					380					
gcg	cgc	ggg	ctg	tgc	gtc	ctg	ggg	gag	gac	aac	gcc	cct	ctc	tga		1197
Ala	Arg	Gly	Leu	Cys	Val	Leu	Gly	Glu	Asp	Asn	Ala	Pro	Leu			
385					390					395						

&lt;210&gt; 2

&lt;211&gt; 398

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 2

Met	His	Thr	Val	Ala	Thr	Ser	Gly	Pro	Asn	Ala	Ser	Trp	Gly	Ala	Pro
1				5					10					15	
Ala	Asn	Ala	Ser	Gly	Cys	Pro	Gly	Cys	Gly	Ala	Asn	Ala	Ser	Asp	Gly
			20					25					30		
Pro	Val	Pro	Ser	Pro	Arg	Ala	Val	Asp	Ala	Trp	Leu	Val	Pro	Leu	Phe
	35						40					45			

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Phe Ala Ala Leu Met Leu Leu Gly Leu Val Gly Asn Ser Leu Val Ile  
 50 55 60

Tyr Val Ile Cys Arg His Lys Pro Met Arg Thr Val Thr Asn Phe Tyr  
 65 70 75 80

Ile Ala Asn Leu Ala Ala Thr Asp Val Thr Phe Leu Leu Cys Cys Val  
 85 90 95

Pro Phe Thr Ala Leu Leu Tyr Pro Leu Pro Gly Trp Val Leu Gly Asp  
 100 105 110

Phe Met Cys Lys Phe Val Asn Tyr Ile Gln Gln Val Ser Val Gln Ala  
 115 120 125

Thr Cys Ala Thr Leu Thr Ala Met Ser Val Asp Arg Trp Tyr Val Thr  
 130 135 140

Val Phe Pro Leu Arg Ala Leu His Arg Arg Thr Pro Arg Leu Ala Leu  
 145 150 155 160

Ala Val Ser Leu Ser Ile Trp Val Gly Ser Ala Ala Val Ser Ala Pro  
 165 170 175

Val Leu Ala Leu His Arg Leu Ser Pro Gly Pro Arg Ala Tyr Cys Ser  
 180 185 190

Glu Ala Phe Pro Ser Arg Ala Leu Glu Arg Ala Phe Ala Leu Tyr Asn  
 195 200 205

Leu Leu Ala Leu Tyr Leu Leu Pro Leu Leu Ala Thr Cys Ala Cys Tyr  
 210 215 220

Ala Ala Met Leu Arg His Leu Gly Arg Val Ala Val Arg Pro Ala Pro  
 225 230 235 240

Ala Asp Ser Ala Leu Gln Gly Gln Val Leu Ala Glu Arg Ala Gly Ala  
 245 250 255

Val Arg Ala Lys Val Ser Arg Leu Val Ala Ala Val Val Leu Leu Phe  
 260 265 270

Ala Ala Cys Trp Gly Pro Ile Gln Leu Phe Leu Val Leu Gln Ala Leu  
 275 280 285

## 20990PCT GPR54.ST25

Gly Pro Ala Gly Ser Trp His Pro Arg Ser Tyr Ala Ala Tyr Ala Leu  
 290 295 300

Lys Thr Trp Ala His Cys Met Ser Tyr Ser Asn Ser Ala Leu Asn Pro  
 305 310 315 320

Leu Leu Tyr Ala Phe Leu Gly Ser His Phe Arg Gln Ala Phe Arg Arg  
 325 330 335

Val Cys Pro Cys Ala Pro Arg Arg Pro Arg Arg Pro Arg Arg Pro Gly  
 340 345 350

Pro Ser Asp Pro Ala Ala Pro His Ala Glu Leu Leu Arg Leu Gly Ser  
 355 360 365

His Pro Ala Pro Ala Arg Ala Gln Lys Pro Gly Ser Ser Gly Leu Ala  
 370 375 380

Ala Arg Gly Leu Cys Val Leu Gly Glu Asp Asn Ala Pro Leu  
 385 390 395

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<211> 398

<212> PRT

<213> Homo sapiens

<400> 3

Met His Thr Val Ala Thr Ser Gly Pro Asn Ala Ser Trp Gly Ala Pro  
 1 5 10 15

Ala Asn Ala Ser Gly Cys Pro Gly Cys Gly Ala Asn Ala Ser Asp Gly  
 20 25 30

Pro Val Pro Ser Pro Arg Ala Val Asp Ala Trp Leu Val Pro Leu Phe  
 35 40 45

Phe Ala Ala Leu Met Leu Leu Gly Leu Val Gly Asn Ser Leu Val Ile  
 50 55 60

Tyr Val Ile Cys Arg His Lys Pro Met Arg Thr Val Thr Asn Phe Tyr  
 65 70 75 80

## 20990PCT GPR54.ST25

Ile Ala Asn Leu Ala Ala Thr Asp Val Thr Phe Leu Leu Cys Cys Val  
 85 90 95

Pro Phe Thr Ala Leu Leu Tyr Pro Leu Pro Gly Trp Val Leu Gly Asp  
 100 105 110

Phe Met Cys Lys Phe Val Asn Tyr Ile Gln Gln Val Ser Val Gln Ala  
 115 120 125

Thr Cys Ala Thr Leu Thr Ala Met Ser Val Asp Arg Trp Tyr Val Thr  
 130 135 140

Val Phe Pro Leu Arg Ala Leu His Arg Arg Thr Pro Arg Leu Ala Leu  
 145 150 155 160

Ala Val Ser Leu Ser Ile Trp Val Gly Ser Ala Ala Val Ser Ala Pro  
 165 170 175

Val Leu Ala Leu His Arg Leu Ser Pro Gly Pro Arg Ala Tyr Cys Ser  
 180 185 190

Glu Ala Phe Pro Ser Arg Ala Leu Glu Arg Ala Phe Ala Leu Tyr Asn  
 195 200 205

Leu Leu Ala Leu Tyr Leu Leu Pro Leu Leu Ala Thr Cys Ala Cys Tyr  
 210 215 220

Ala Ala Met Leu Arg His Leu Gly Arg Val Ala Val Arg Pro Ala Pro  
 225 230 235 240

Ala Asp Ser Ala Leu Gln Gly Gln Val Leu Ala Glu Arg Ala Gly Ala  
 245 250 255

Val Arg Ala Lys Val Ser Arg Leu Val Ala Ala Val Val Leu Leu Phe  
 260 265 270

Ala Ala Cys Trp Gly Pro Ile Gln Leu Phe Leu Val Leu Gln Ala Leu  
 275 280 285

Gly Pro Ala Gly Ser Trp His Pro Arg Ser Tyr Ala Ala Tyr Ala Leu  
 290 295 300

Lys Thr Trp Ala His Cys Met Ser Tyr Ser Asn Ser Ala Leu Asn Pro  
 305 310 315 320

## 20990PCT GPR54.ST25

Leu Leu Tyr Ala Phe Leu Gly Ser His Phe Arg Gln Ala Phe Arg Arg  
325 330 335

Val Cys Pro Cys Ala Pro Arg Arg Pro Arg Arg Pro Arg Arg Pro Gly  
340 345 350

Pro Ser Asp Pro Ala Ala Pro His Ala Glu Leu His Arg Leu Gly Ser  
355 360 365

His Pro Ala Pro Ala Arg Ala Gln Lys Pro Gly Ser Ser Gly Leu Ala  
370 375 380

Ala Arg Gly Leu Cys Val Leu Gly Glu Asp Asn Ala Pro Leu  
385 390 395